University College London Hospitals NHS
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Short Stay Surgery

Day Surgery & 23 hr Surgery at UCH

Guidelines & Protocols

May 2008

The only constant in life is change

Buddha

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Contents Page(s)

Introduction

This is a working document based on international research, national guidelines and local trust protocols. These are consensus based guidelines. The acute pain team and the pre-assessment clinic (PAC) have contributed significantly to the development of this document. Anaesthesia as a speciality can make a particular contribution toward the success of short stay surgery at UCH. It promotes an efficient use of resources without compromising patient outcomes.

Short stay surgery includes Day Surgery and 23 Hour Surgery. Short stay surgery is dependent on the combination of minimally invasive surgery and multi-modal anaesthesia that enables the rapid recovery and the safe discharge home of the patient. The objective for UCH is to increase the rate of short stay surgery by increasing day surgery and by reducing surgical in-patient length of stay. The overall objective of short stay surgery is same day admission and discharge within 24 hours. The pillars of effective and efficient short stay surgery are appropriate patient selection and timely discharge. Appropriate patient selection is *key*. Suitability for short stay surgery is determined by the intended type of surgery, the health of the patient at the preoperative assessment clinic and the social support that the patient has at home.

Day Surgery. Same day admission and same day discharge is termed day surgery. The aim is for 75% of all elective surgery to be performed as day surgery as targeted by the NHS Plan[1].

23 Hour Surgery. Same day admission and next day discharge is termed 23 hour surgery. Short stay surgery discharge will be nurse led and protocol driven.

Rapid Assessment and Discharge Surgery (RADS)

Non-elective NCEPOD 3 cases have traditionally been booked onto an emergency list and operated on an ad-hoc basis. At UCH we only have one non-elective theatre and these cases can be cancelled repeatedly because of more urgent surgical cases. NCEPOD 3 cases (abscesses, ERPCs, minor trauma) are now identified in accident and emergency according to protocol and sent to the pre-assessment clinic to be screened and assessed for suitability. If the planned surgery is suitable, the medical condition of the patient stable and social support sensible then the patient is booked onto a dedicated operating list and allowed to go home prior to surgery. This saves unnecessary in patient bed stays both pre and post operatively. RADS patients are admitted and discharged from T2 ward.

Admission and Discharge

Patients admitted to the 23 hr short stay surgery ward who achieve discharge home recovery criteria should be discharged the same day if an escort is available and the patient has someone responsible to look after them overnight. Similarly if a day surgery patient fails to achieve discharge home criteria and requires an unanticipated extended recovery they should be transferred to the 23 hr short stay surgery ward overnight.

Patient Flow at UCH

The Pre-assessment Clinic (PAC) is in outpatients in the podium clinic A (A-Pod). Tower Theatres on T2 is the Day Surgery Unit. T6 is both the surgical admissions ward and the 23hr Short Stay Surgical Ward.

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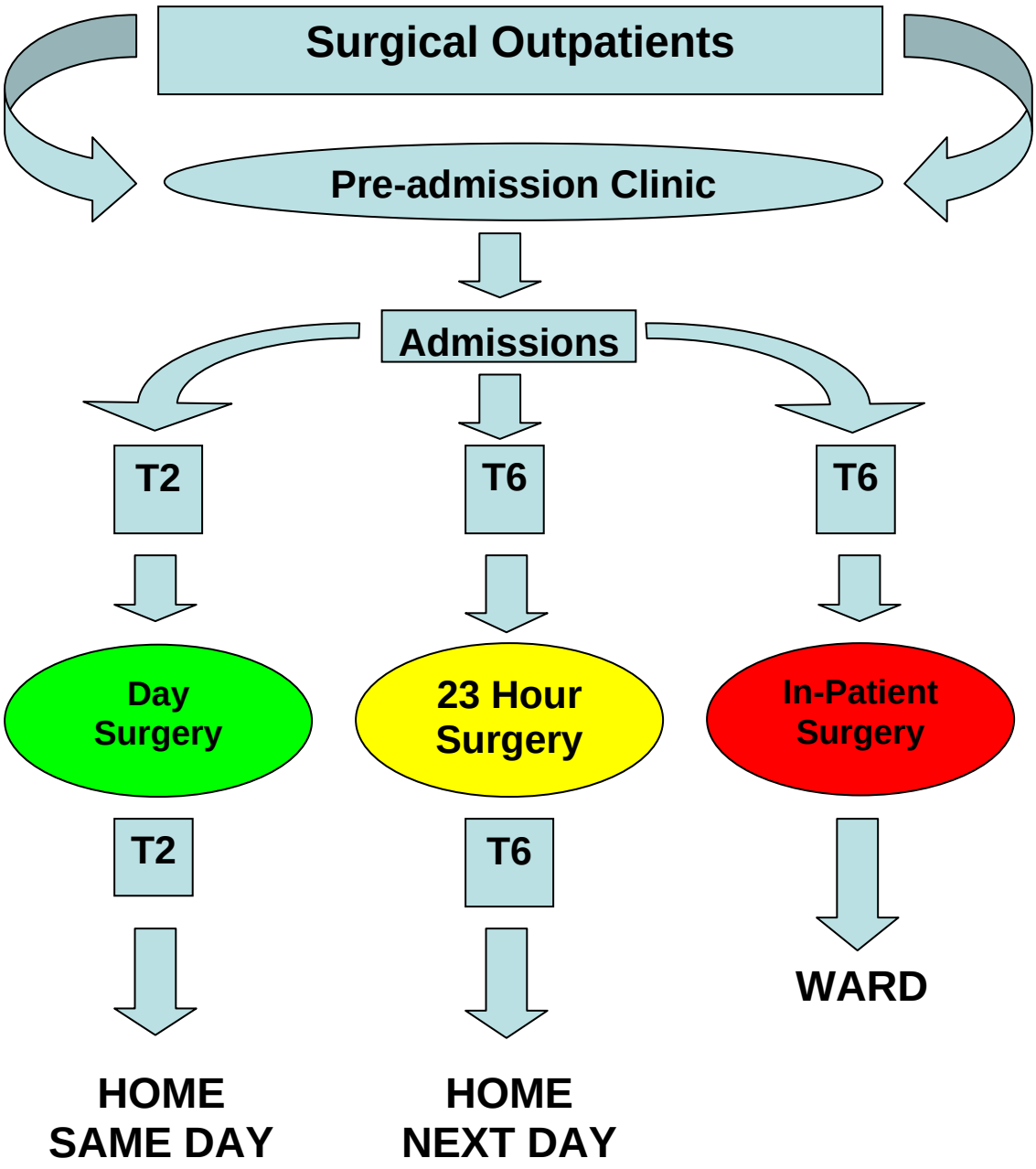

Pre-operative assessment clinic (PAC) for short stay surgery

The gateway to short stay surgery is through the pre-operative assessment clinic (PAC) in A-Pod in outpatients. The plan is for all elective patients to undergo pre-operative screening in the clinic prior to admission ideally 4-6 weeks pre-operatively. The aim in pre-operatively assessing patients is to investigate and optimise the patient to reduce cancellations and improve outcome. Preassessment also provides the patient with information to enable better understanding of the proposed peri-operative plan. This improves patient satisfaction. The PAC is anaesthetic consultant led and nurse run.

Appropriate patient selection is *the* key factor in ensuring the safety and success of short stay surgery. Surgical, medical and social issues are evaluated, investigated and optimised as required. The patient is educated about pre, peri and post-operative issues such as analgesia and anti-emesis. Effective pre-operative assessment maximises clinical efficiency. The cost of unnecessary pre operative overnight hospital admission prior to surgery is reduced.

Fitness for short stay surgery is no longer related to arbitrary limits such as age, American Society of Anaesthesiologists (ASA) grade or Body Mass Index (BMI). Appropriateness for Short Stay Surgery depends on the patients' health (stable) at pre-operative assessment and surgical (suitable) and social issues (sensible with support). The process of pre-operative assessment commences with the patient attending the clinic direct from surgical outpatients with their notes and a provisional to come in (TCI) date from the surgeon.

Pre-operative assessment clinic (PAC) for short stay surgery

The patient completes a pre-screening health questionnaire. Then if indicated a pre-operative assessment nurse completes a pre-operative assessment involving a full medical, surgical and social history. ASA 1 and 2 patients have nurse led pre-operative assessment with consultant anaesthetic review of results and investigations if necessary. ASA 3 and 4 patients may have consultant anaesthetist pre-operative assessment depending on the proposed surgery. The pre-assessment notes can be easily reviewed by the attending anaesthetist on the day of surgery. If there is anticipated difficulty (such as a predicted difficult airway) the pre-assessment chart can be photocopied and reviewed by the attending anaesthetist prior to the proposed date of surgery. Maj Mutch the anaesthetic co-ordinator is an excellent first point of contact with these cases.

Investigations are guided by the pre-operative guidelines issued by the National Institute for Clinical Excellence (NICE) and by local policies issued by the Trust [2]. MRSA screening is pre-requisite for all proposed surgery (with the exception of gynaecology). Patients are given guidance on medication to continue or discontinue prior to surgery. For Day Surgery it remains essential that the patient has an escort able to accompany them home. It is also essential that there is a responsible adult to look after them on the first post-operative night whether at home, in a hotel or in a hostel. The patient must sign that they have understood the fasting guidelines and the requirement of an escort for day surgery.

Preoperative Fasting Guidelines

Recommendations for pre-operative fasting guidelines have been agreed by the Royal College of Anaesthetists, Royal College of Nursing, Royal College of Midwives, Association of Paediatric Anaesthetists, The British Association of Day Surgery, and the Preoperative Association. The preoperative fasting guidelines follow the **2-4-6** rule for paediatric and adult patients. 2 hours for clear fluids, 4 hours for breast milk and 6 hours for formula milk, cow's milk and for solids. Premedication may be taken with 30ml clear fluid (children 0.5ml/kg). Chewing gum should not be permitted on the day of surgery

Patient Information

The patient should receive a general information booklet about anaesthesia entitled *'You and your anaesthetic'* endorsed by both the Royal College and Association of Anaesthetists. The patient should also receive a surgery specific information booklet detailing the benefits, risks and expected side effects of the procedure. Comprehensive contact details for urgent enquires and emergencies should be clearly documented in the booklet.

To ensure timely same day admission for short stay surgery the patient must understand the exact details of the time and location for arrival on the day of surgery. For Day Surgery this will be T2 and for 23 hour this will be T6. The current home, work and most importantly mobile phone numbers of all the patients must be confirmed and clearly documented at the PAC.

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Anaesthesia for Short Stay Surgery

General Anaesthesia

The success of short stay surgery is dependent on the use of short acting general anaesthesia with minimal side effects and maximal recovery. Short stay surgery precludes the use of soluble anaesthetic agents. Isoflurane should not be used for short stay surgery. Day surgery patients achieve discharge home criteria quicker with Desflurane than with Sevoflurane for both short and long procedures. Desflurane has the lowest blood/gas solubility and fastest wash in/wash out of all the inhaled anaesthetic agents making it ideal for overweight and obese patients. Time to spontaneous respiration, eye opening, extubation, orientation and appropriate verbal response are all quicker with Desflurane making it the default choice for short stay surgery. It is also cheaper (half the price) than Sevoflurane. Sevoflurane should be reserved for paediatrics, inhalational inductions, asthmatics, shared airway surgery and patients with cardiac co-morbidity.

Patients at risk of Malignant Hyperpyrexia (MH) should receive Propofol total intravenous anaesthesia (TIVA) by target controlled infusion (TCI). Using air (nitrogen) instead of Nitrous Oxide has been shown to reduce the risk of PONV by 12% [3].

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Spinal Anaesthesia

Short stay surgery depends on the quick recovery of function to achieve discharge criteria. Spinal anaesthesia for day surgery is acceptable in a reduced dose. The normal contraindications with regard to patient refusal and anti-coagulation apply. The recommendations from the British Association of Day Surgery are 5 - 10 mg of 0.5% Heavy Bupivacaine combined with 10 micrograms of Fentanyl diluted to a volume of 3ml with 0.9% sterile saline [4]. The same discharge criteria are applied irrespective of the mode of anaesthesia. Short stay surgery under spinal anaesthesia should ideally be first on the list.

Regional Anaesthesia

The success of short stay surgery is dependent on the use of long acting regional anaesthesia. Regional anaesthesia alone or combined with general anaesthesia is ideal for short stay surgery. Regional anaesthesia provides excellent postoperative analgesia without opioid related side effects such as drowsiness and PONV. Nerve plexus blocks should be performed awake with a nerve stimulator and / or ultrasound guidance with 1-2mg of Midazolam for anxiolysis. Field blocks (ilioinguinal for hernia surgery, penile block for circumcision) should be performed after induction of anaesthesia but before surgical skin incision to reduce the requirement for opioid. Haemorrhoidectomies should receive long lasting local anaesthetic infiltration prior to skin incision.

Regional anaesthesia for short stay surgery

A recommended local anaesthetic combination for nerve plexus blocks in day surgery is 10ml 1% Lidocaine and 20ml 0.25% Bupivacaine. The Lidocaine is safe and works quickly whilst the Bupivacaine provides prolonged analgesia without a profound motor block preventing mobilisation, physiotherapy and discharge. The volume of 30ml provides a margin for error. This combination provides a quick onset of anaesthesia and 12 - 18 hours of post discharge analgesia. Also advise the patient of the need to take care of the insensate limb and to take regular oral analgesia before the nerve block wears off.

An interscalene block is ideal for shoulder surgery whilst an axillary block is ideal for arm and hand surgery. A femoral block is ideal for anterior knee surgery whilst a popliteal block is ideal for foot and ankle surgery. Sciatic nerve blocks are not recommended for short stay surgery as they prevent early weight bearing and mobilisation postoperatively. The patient must be warned about the need to protect the insensate limb after discharge from day surgery. A collar and cuff are provided for shoulder surgery patients and crutches are provided for knee surgery patients.

Patients having anterior cruciate ligament (ACL) surgery *may* need a femoral nerve block if they have contraindications to non steroidal anti inflammatory (NSAID) analgesics. Static quadriceps physiotherapy postoperatively is definitely delayed by a femoral nerve block. An alternative is local infiltration to the knee joint and hamstring harvest site by the surgeon at the end of surgery. If unsure discuss with the surgeon and physiotherapist in the pre-operative period.

Multi-Modal Analgesia

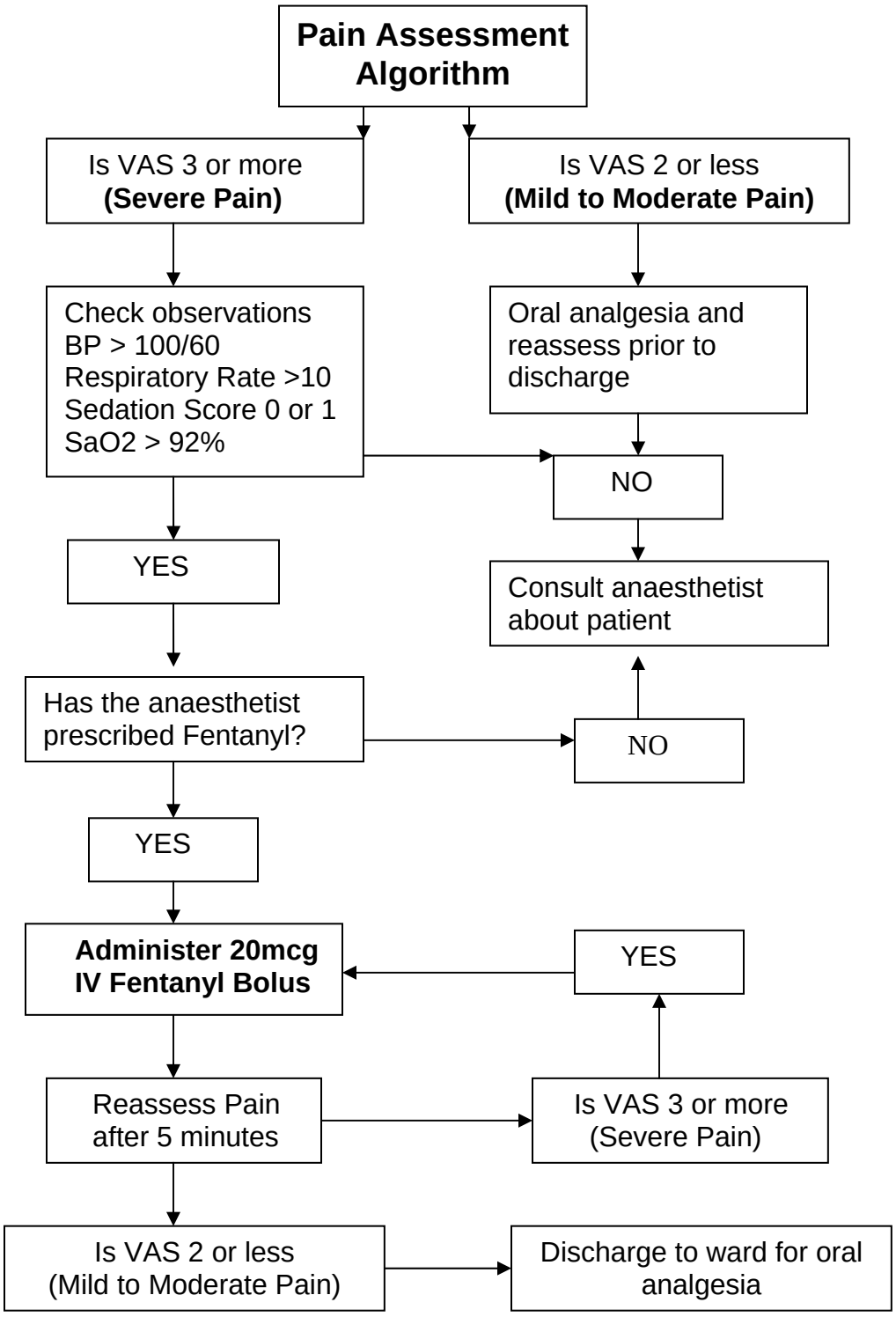
Short stay surgery depends on effective analgesia that allows the patient to mobilise early with minimal side effects. This is best achieved with balanced analgesia (Kehlet, 1993). Inadequate analgesia delays discharge.

Opioids. Opioids are still the most effective analgesia for severe pain. Pain after surgery should not prevent the patient being discharged if oral analgesia is provided. The balance between the benefits of analgesia and side effects such as PONV has to be considered. Patient controlled analgesia (PCA) may prolong discharge and increase side effects. Therefore opioids should be administered orally once the patient has recovered. Recovery nursing staff will administer intravenous Fentanyl boluses according to protocol if the patient is in severe pain postoperatively (see below). The patient should also receive 30mg Dihydrocodeine at the same time so that after the effects of the Fentanyl wear off the oral analgesia is staring to work. Patients not responding to Dihydrocodeine should be given oral morphine (Oromorph 10mg).

Paracetamol. All patients should receive intravenous Paracetamol unless contraindicated peri-operatively and oral post-operative Paracetamol regularly.

NSAIDs. All patients should receive intravenous NSAIDSs (Diclofenac 1mg/kg) peri-operatively unless contraindicated and regular post-operatively for max 5 days according to the Analgesic Ladder (see below).

Recovery Prescribing Guidelines for Postoperative Short Stay Surgery Pain Management



Ward Prescribing Guidelines for Postoperative Short Stay Surgery Pain Management

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Mild Pain
Painscore 1-2

Recommended analgesia

- Paracetamol (PO/PR) 1g QDS
  and if needed
- Diclofenac* (PO/PR) 50mg TDS

Moderate Pain
Painscore 2-3

Recommended analgesia

- Paracetamol (PO/PR) 1g QDS
  +
- Diclofenac* (PO/PR) 50mg TDS
  and if needed
- Dihydrocodeine (PO) 30mg 4 hourly

Severe Pain
Painscore 3-4

Recommended analgesia

- Paracetamol (PO/PR) 1g QDS
  +
- Diclofenac* (PO/PR) 50mg TDS
  +
- Morphine (PO) 10 mg as needed

Aim for a pain score of 1

0	1	2	3	4
No pain	Mild pain	Moderate pain	Severe pain	Worst pain

These guidelines are intended for doctors and nurses to rationalise analgesic prescribing. Anaesthetists will prescribe analgesia at time of surgery according to the expected severity of pain. This has to be adjusted according to the patient's pain scores.

Perioperative pain relief

- Fentanyl intravenous bolus as per protocol
- Regional blockade as appropriate
- Local anaesthetic infiltration

Prescribing tips:

- Always use oral route if tolerated. Post-operative nausea and vomiting can be effectively treated.

Opioid dependant patients:

- Patients who regularly take opioids should continue their usual medication perioperatively

***NSAIDs:**

- Refer to BNF or UCLH intranet formulary for cautions and contraindications.

Post-operative nausea & vomiting*:*

- Prophylaxis if more than 2 risk factors
- Prompt treatment is essential using BADS guidelines

Post discharge pain relief

- Around the clock oral Paracetamol
- Regular NSAIDs* (unless contraindicated) if required
- Oral Dihydrododeine as required

Multi-Modal Anti-Emesis

Unplanned overnight admission to hospital because of PONV is distressing for the patient and expensive for the trust. Therefore to improve the quality of care we should aim to provide an emetic free anaesthetic. Uncontrolled postoperative pain is a major cause of PONV therefore adequate pain management is a prerogative. Avoiding the use of Nitrous Oxide as part of general anaesthesia should reduce the risk of PONV. Dexamethasone and Ondansetron combined reduce the risk of PONV by about 50%. Propofol TIVA also reduces the risk of PONV but increases the time to discharge. All of these anti-emetic interventions act independently as well as in combination [3].

Hydration with intravenous fluids should be given to all patients as they have all fasted and will be dehydrated on admission. There is good evidence that intra-operative intravenous fluid (20ml/kg Hartmann's) reduces the rate of post-operative nausea and vomiting [5].

Strong consideration should be given to use Dexamethasone for short stay surgery patients. It is an excellent ant-emetic which has an extended duration of action lasting up to 24 hours postoperatively. Dexamethasone is also anti-inflammatory, analgesic and anti-anorexic stimulating appetite and enhancing recovery postoperatively. Cyclizine although very effective as an anti-emetic (especially opioid related nausea) does cause drowsiness and delays discharge home so should be reserved for postoperative use if required only.

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BADS Guidelines Postoperative Nausea and Vomiting (PONV)

Key Risk Factors PONV

Female
Non-smoker
History of PONV
Motion sickness
Opioids for analgesia
Head and Neck surgery
Laparoscopic surgery
Strabismus surgery

Recommended Prophylaxis for PONV

Low Risk	Less than 2 risk factors No specific prophylaxis Consider intravenous fluids Non-opioid pre-emptive analgesia
Intermediate Risk	More than 2 risk factors Single agent prophylaxis Dexamethasone or Ondansetron Plus general measures as above
High Risk	More than 3 risk factors Combined prophylaxis Dexamethasone and Ondansetron Plus general measures as above

Recommended Treatment for PONV

1. Give Ondansetron (4mg IV) if not already given. Consider repeating the dose.
2. Give Cyclizine (50mg slow IV).
3. Give 20ml/kg Hartmann's solution over 30 mins to correct dehydration.

PONV is usually self-limiting. If maximum anti-emetic treatment has already been given, overnight admission will not improve the treatment of PONV. Day Surgery patients should be offered the option of going home and allowed to do so if they wish. Patients are advised to seek help if symptoms do not improve within 24hrs. Patients should be admitted if they are considered to be at risk of dehydration.

Discharge Criteria

Short stay surgical patients should have a protocol-based nurse-initiated discharge from recovery to the ward and from the ward to home. Patients should be discharged from first stage recovery to second stage recovery or the ward if they achieve >9/10 on the Aldrete Discharge Protocol (see below). Patients are considered ready to be discharged home from second stage recovery or the ward when they achieve >9/10 on the Post Anaesthesia Discharge Scoring System (PADSS – see below). If discharge is protocol driven it is more efficient. That efficiency can be audited.

Current recommendations regarding postoperative recovery for Day Surgery are that unless the patient is at specific risk of urinary retention due to patient factors (elderly, history of voiding difficulty), anaesthetic factors (morphine or spinal anaesthesia) or surgical intervention (urology, hernia or anal surgery) then the ability to demonstrate voiding is not a pre-requisite for discharge home [6, 7]. Similarly resumption of oral intake is encouraged though no longer required to be demonstrated prior to discharge [8]. The patients should be encouraged to drink when thirsty, eat when hungry, void when ready and phone if worried.

Post Discharge Analgesia

Multi-modal take-home analgesia (Paracetamol, Diclofenac and Dihydrocodeine) is essential as the incidence of moderate to severe pain post discharge can be as high as 50% for specific surgical procedures [9]. Patients must be reminded to take analgesia ‘around the clock’ regularly and not just ‘as required’.

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Aldrete Discharge criteria from 1st stage Recovery

Recovery to Ward

Activity

Can move voluntarily on command	
4 extremities	2
2 extremities	1
0 extremities	0

Breathing

Able to deep breath and cough freely	2
Dyspneoa, shallow or limited breathing	1
Apnoea	0

O2 Saturation	
Maintains O2 saturation > 92% on room air	2
Needs 02 supplement to maintain SpO2 >90%	1
02 Saturation < 90%	0

Circulation

BP compared with pre-anaesthetic level	
+/- <20mmHg	2
+/- 20-50mmHg	1
+/- > 50 mg	0

Consciousness

Fully awake	2
Rousable to speech	1
Not responding	0

Total score

Time Achieved

Patients with Aldrete score of **9** or more may be discharged from 1st stage recovery

Date	Nurse signature	Print name	Time discharged to 2nd stage / ward

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Post Anaesthesia Discharge Scoring System (PADSS)

Ward to Home

Activity

Steady gait, no dizziness, or meets pre-op level	2
Requires assistance to ambulate	1
Unable to ambulate	0

Vital Signs (must be stable, consistent with age and pre-op baseline)

BP and pulse within 20% preoperative baseline	2
BP and pulse 20-40% of preoperative baseline	1
BP and pulse >40% of preoperative baseline	0

Pain

Acceptable to patient	2
Not acceptable to patient	1
Not acceptable to patient or nurse	0

Nausea and Vomiting

Minimal successfully treated with oral	2
Moderate successfully treated with intravenous	1
Severe and persistent	0

Postoperative Surgical Bleeding

Minimal does not require dressing change	2
Moderate up to two dressing changes required	1
Severe more than three changes and surgical review required	0

Total score

Time Achieved

Patients with PADSS score of **9** or more may be discharged from ward to home

Date	Nurse signature	Print name	Time discharged home

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Summary for Short Stay Surgery

Day Surgery and 23hr Surgery = Short Stay Surgery

Do use short acting general anaesthetics and long acting local anaesthetics

Do hydrate

Do warm

Desflurane

Dexamethasone

Default to fentanyl for analgesia

Deliver multi-modal analgesia and anti-emesis

Dihydrocodeine (or oral morphine) if intravenous fentanyl required in recovery

Direct protocol driven nurse led discharge

Day Surgery discharge same day and 23hr next day.

Discharge all short stay surgery within 24 hours if meet discharge criteria

Discharge with information about regular analgesia and care for insensate limb

Do follow up

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Contact Details

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Phone Ext 8617
Mobile 07939135306

Acute Pain Team for Short Stay Surgery
Brigitta Brandner
E-mail brigitta.brandner@uclh.nhs.uk
Bleep 2257

Tower Theatre Contact Details

T2 Reception	70203
T2 Ward	70222/70223
T2 Recovery	70232/70289
T2 Theatre 1	70231
T2 Theatre 2	70235

Tower Theatre Opening Times

T2 Ward	07.00 - 20.00
T2 Theatres	08.30 - 12.30
	13.00 - 17.00

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